

MICHIGAN FARMER.

Devoted to Agriculture, Horticulture, and Domestic and Rural Affairs.

NEW

Perfect Agriculture is the foundation of all Trade and Industry.—Liebig.

SERIES.

VOL. VI.

DETROIT, JULY 15, 1848.

NO. 14.

EVERY FARMER'S BOOK!!

EIGHT THOUSAND COPIES SOLD IN FIVE MONTHS!

Illustrated Treatise on Domestic Animals,

Being a history and description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm Dogs; with directions for their management, breeding, crossing, rearing, feeding and preparation for a profitable market. Also, their diseases and remedies; together with full directions for the management of the dairy, and the comparative Economy and advantages of working animals, the Horse, Mule, Oxen, &c.

BY R. L. ALLEN,

Author of "Compend of American Agriculture," &c.

The above work contains more than 40 engravings and Portraits of Improved Animals, illustrative of the different breeds and various subjects treated in it.

The most minute as well as general principles for breeding, crossing, rearing, feeding, and management of all domestic animals, are herein given, to produce the utmost marketable value for the food and attention bestowed on them; as well as to prevent disease, and save the immense losses which annually occur from this source. It can be sent by mail, in cloth binding, 75 cents—Paper, 50 cents.

Published by C. M. SAXTON, 205 Broadway, N. York.

For sale by all booksellers throughout the country. Agents wanted for every county in every State. Address post paid, the Publisher, to whom liberal terms will be made.

OPINIONS OF THE PRESS.

The compactness yet completeness will make it a favorite with agriculturists.—*Chronicle, Philadelphia.*

We have examined the book and come to the conclusion that no farmer should be without it.—*Sat. Gleaner.*

Its greatest worth is, as a complete Farrier, showing the diseases of animals, their treatment, and cure.—*Far. & Mec.*

The portion which relates to the dairy alone, is worth the cost of the book.—*Worcester Transcript.*

One of the most useful books which has come to our notice.—*N. J. Journal.*

It is every way adapted to be serviceable in every household which has domestic animals.—*D. Adv. Newark.*

We believe it a complete guide for the farmer and the dairyman in the purchase, care, and use of animals.—*Jeffersonian.*

Here is a work which should be in the hands of every farmer.—*Highland Courier.*

We can confidently recommend this work as a very descriptive one to those engaged in farming raising stock or husbandry.—*Northampton Courier.*

The author is a practical farmer and stock-breeder, and is able to vouch for the correctness of the remedies of diseases of Domestic Animals, as well as the best mode of managing them.—*Baron O. Reflector.*

Here is a book for the MILLION, written by a gentleman of experience and science, in which the farmer will find information which will save him much anxiety, unproductive labor, and useless expense.—*Newburyport Watchman.*

It costs but seventy-five cents, and cannot fail to be worth ten times that amount to any farmer.—*Summit, S. C. Beacon.*

It is the best of that character we have yet seen; no farmer should be without it.—*Democrat, Carlisle, Pa.*

This is just such a book as every owner of stock should be possessed of.—*Easton, Md. Star.*

Here is a book which all—those who follow the plow, and those who direct it—can read to profit. It is a library of knowledge, presenting the latest improvements and discoveries, on all the topics treated of; and illustrated by a great variety of cuts. The "Allens" one of whom is the author of the work before us, are quite famous in their especial rule, so that what proceeds from them may be confidently credited at all events. The present book is a most interesting and instructive one and must meet with great sale.—*Scioto Gazette.*

It will give impulse, encouragement, and success to every one fond of raising fine, healthy and profitable farm animals. Every such farmer may be sure of real pleasure and profit in studying the book. The young sons and daughters of farmers will find evenings well and pleasantly spent in gaining from it the information for which they

will have practical use the rest of their lives.—*Old Colony Memorial.*

Most earnestly do we wish that every agriculturist, in our section, would possess himself of this really interesting book, and abide by its precepts. Sure, are we, that the result would soon be exhibited in an improvement of stock generally.—*Parkersburg, Va. Gazette.*

This work, to the farmer and stock raiser, will be useful, instructive, and profitable, enabling them to improve the breed of their stock, preserve them from sickness, and cure them when infected with disease.—*Herald, Morrisville, Pa.*

The time has gone by when farmers can expect to succeed without giving some attention to Book Farming, and we trust they begin to see it themselves. We should like to know that this work was in the hands of every farmer in the county.—*Mercury Pottsdam, N. Y.*

The individual who is seeking general information, will peruse it with pleasure, while the farmer who desires to gain practical knowledge will read it with interest. The farmer who would carry on operations successfully in his line, should not be without it.—*Signal Belfast, Me.*

The title page of this work gives a good idea of its scope and intent. It is a comprehensive summary of farm operations; and will prove very acceptable to the great mass of our farming population. We are informed that 3000 copies of the work have been sold since the first of January. It is well printed and profusely illustrated.—*N. Y. Tribune.*

It is furnished with numerous illustrating cuts, and will form a complete "vade mecum" for the agriculturist, convenient for reference and to be relied on when consulted.—*Baltimore American.*

This is a practical book by a practical man and will serve extensive practical ends. It is a companion which every farmer will feel that he cannot well be without.—*N. Y. Observer.*

We cheerfully recommend this work to farmers.—*Signal Juliett Ill.*

We anticipate an extensive sale for this work.—*Ohio Cultivator.*

The work ought to be in the hands of every planter.—*N. O. Delta.*

The author is a gentleman of fine attainments, and who ranks as one of the most accomplished writers on agricultural subjects in the country.—*Ala. Planter.*

Many a valuable animal is lost every year, for want of the knowledge here conveyed.—*Eagle, Brattleboro, Vt.*

The author (Mr. Allen) is a practical man, and everything from his pen, on subjects connected with agriculture and cattle breeding is valuable to those who prefer matter of fact to mere theory.

The work comes at seventy-five cents. The information contained in it is worth three times that amount. His directions for the management of the dairy will be of great service to those not versed in that important art.—*Maine Farmer.*

From the N. Y. Farmer and Mechanic.

N. York Farmers' Club.

Lieut. Bartlett, of the United States Navy, recently from California, presented bulbs of the Amole plant, a native of that region. It resembles, somewhat, an oblong onion—attains the size of a large onion—its leaves fibrous, so that the people make of them sweat cloths to put under their saddles. But of the bulb a singular use is made, that is, to wash their clothes. Without any preparation, this bulb is rubbed like a lump of soap, raises a lather like it, and is a thorough cleansor. The Amole likes a moist soil.

The Editors of the American Agriculturist presented the leaf stalk of Rhubarb, from the garden of Paul Brill, of Abarsimus, New Jersey. This stalk with two others weigh seven pounds and a quarter. The garden of Mr. Brill is within a hundred yards of salt meadows, nearly on a level with them, but is a rich sandy loam.

Mr. Meigs presented growing corn-stalks from gourd seed corn, dried by the patent process of Stafford, of Cleveland, Ohio. This corn was planted by me, since the last meeting of the

Club, in order to test the vitality of the seed, as it would seem certain that all the good qualities of grain would be preserved by that process of drying, if the vitality remained in it.

Mr. Meigs said, that as it was desirable that our California Amole plant should be well tried here, he moved one bulb be given to George G. Sickers, and the other to Charles Henry Hall, to plant them, and report to the Club as to their growth, &c.—Carried.

"St. Petersburg, on the banks of the river Neva, in $59^{\circ} 56$ min. 31 sec. North Latitude, and $47^{\circ} 59$ min. 30 sec. East Longitude from Paris, occupies a space of about forty-five millions and a half of square metres, of which flower and pleasure gardens have six millions and upwards, and the meadows and kitchen gardens have more than seven millions of metres. The elevation of this city above the Baltic, being eighteen metres, permits the warmth of summer to penetrate the soil deeper, and renders it more suitable for many flowers and leguminous plants.

Frost begins ordinarily about the end of September and lasts till the end of April, and even to the middle of May.—It may be said that there are but two seasons in St. Petersburg—winter and summer; for one can hardly call a few fine days spring, while the river Neva still presents its solid roads of ice. It is only in the beginning of May that the first luke-warmth is felt, then vegetation develops itself with an incredible rapidity, and then in six or seven days in summer, which continues until the fore part of August.—Storms are very rare in summer; those we saw were very short, and not violent. One thing we have no idea of in France, and that is the ravishing nights of St. Petersburg during the summer. Imagine a sort of mysterious half day-light, soft, vapory, and I might say *velontee*, (velvety,) strong enough for one to read and write by in the open air, at all hours of night in June and in part of July. We might say that the Capitol enjoys *one day* of two entire months' duration."

Mons. Masson gives full descriptions of the magnificent gardens and conservatories on the Island of Yelaguine, the private property of the Empress.—This contains a beautiful park in the English taste. The garden of Tauris was founded by Potemkin, in 1780, and was designed by William Goold. The most striking part of this garden consists in its glass conservatories, which are upwards of two thousand feet in length, 14,000 pots of strawberries, of the Whiff and Roseberry kinds, supply the Emperor's table.

Cucumbers are used to a great extent in Russia. The glass conservatories in the Island of Apothecaries extend in length more than three thousand feet. The botanic conservatory, or rather palace of glass, was commenced in 1845 and finished in 1847. It is supported on the north by an enormous wall, to protect it from

the north winds. Eighteen columns support the roof. It is nearly four hundred feet long, nearly eighty feet high, and upwards of one hundred feet wide.

From the Farmer and Mechanic.

Hydrostatics.

In the study of Hydrostatics all are compelled to arrive at one conclusion, which is the existence of a fundamental principle, of equal pressure, and that all particles composing fluids are so constituted as to press equally in every direction, and are equally pressed upon. For instance, we pour water into a pipe, the two ends of which are bent upwards, like the letter U, it will stand at the same height in both limbs; we may have a cistern containing hogsheds of water with a small pipe leading from the bottom, bent round and upwards to the level with the top, and no amount of water can force it upwards in the pipe above the level of its surface in the cistern.—From these facts two most important conclusions follow, proved both by theory and incontrovertible facts of daily occurrence. The one is, that water though when unconfined will never rise above its level at any particular point, and can never, by its own force of power overcome its gravity, will, by being confined in pipes or close channels of any kind, rise to the height of the original fountain, or as high as its own source. Upon this principle depends all the useful contrivances for conveying water by pipes. The other conclusion is not less true, but far more extraordinary, and, indeed, startling to our belief, if we did not consider the reasoning upon which it is founded. It is, that the pressure of water upon any object with which it comes in contact, or any vessel which contains it, or any place upon which it stands, is not at all in proportion to the body or bulk of the water; but only to the size of the surface with which it is in contact, or against which it presses, and its own height above that surface. Hence the general rule for estimating the pressure of any fluid is to multiply the height or depth by the extent of the surface on which it stands, and the product gives in weight the force of, or pressure of, a column of water equal in extent to the *whole surface covered*, and of the depth of any portion of the fluid resting on that surface, however small the vertical column, or shallow the confined reservoir on which it rests may be.

When we are told that any quantity of water however small, may be so placed as to balance any other quantity of water, however great, the apparent incongruity of the statement will be apt to strike us as somewhat startling. But when we examine the case more closely, we shall find it perfectly correct; for, as above stated, a tube may be made exceedingly small in diameter, and to contain a very small quantity of water, while a very large tube, communicating with it, may contain ten times the

quantity, the level at which it stands in both ends will be the same. Every thing thus depends upon the *height* and the *surface*, and nothing upon the bulk of the fluid. Hence the fact that the water in a pipe of very small size, twenty feet in perpendicular height, has been found to burst a common hoghead with great force. The same process in nature may produce the most extensive and disastrous results—it causes earthquakes and up-heaving of mountains. Suppose in the bowels of some mountain there should be an empty space of ten yards square, and only an inch deep on an average, in which a thin layer of water had lodged so as to fill it entirely, and a small fissure of no more than one inch in diameter should be formed from above two hundred feet down to the water, and the rain should fill this opening, what would be the result? The mountain might be up-heaved perhaps cracked or burst assunder with a force equal to the pressure of 5,022 tons of water, though not above a ton and a half altogether had been actually applied. This power in the operations of nature is probably an important agent but has been little attended to by philosophers in their attempts to explain natural phenomena, and one that is capable of being advantageously applied in many of the operations of art.

A tube of one yard in length acting on a cavity, the surface of which is one yard square, will give a pressure equal to three-quarters of a ton, averdupois, when water is used; but if quicksilver is employed, which is between 13 and 14 times heavier, we have a force of ten tons from a few pounds of mercury.

PLUMBER.

CHEESE DAIRIES.

Experiments in the management of Cheese Dairies, and manufacture of Cheese.

BY ALONZO L. FISH.

Concluded.

In 1845, the experiments alluded to, with sixty dairies, being got up expressly for shipment, a selection was made from the largest and most experienced dairymen in thirteen towns. A vigorous effort was made to reduce the whole practice to one general rule, consisting in *strict cleanliness in every department*, an equilibrium of heat in milk to set, not exceeding ninety degrees, with pure rennet to curdle milk in forty minutes; curd thoroughly worked by hand till as fine when scalded, as wheat or corn; curd scalded in whey with heat not exceeding one hundred degrees, and that heat held until the curd appeared shrunk, and would squeak when pressed between the front teeth. The whey to be drained off, and the curd salted while warm, with 2½ lbs. of refined salt to 100 lbs. of cheese, cooled and pressed forty-eight hours. Cheese half as high as wide.

These leading points, strictly adhered to, were found adequate to produce the article required,

where curing rooms were constructed so as to preserve a *uniform, moderate temperature*. The cheese, not affected by extreme changes of climate, fermented slowly and uniform, rind firm and smooth with little grease; texture firm and solid, yet malleable like butter; the flavor mild and pleasant. The weather being cool till June a great uniformity was manifest in shape and texture. A sudden change of weather to 88 degrees heat, lasting several days, produced a contrast in different dairies, equal to the extreme in temperature, which was found in many dairy rooms to exceed the common atmosphere from 8 to 10 degrees. With little or no ventilation in these, cheese were much swollen, and could be kept in shape only by using *less rennet and more salt*. The *huffed cheese* remaining in same rooms became tainted, or generated a sharp unpleasant flavor; those removed to a temperature suited to their constitution cured quick, and were well adapted to early home markets. Those salted high enough to stand the excess of heat, were hard, dry, crumbly and smart. A dry room was found best for a wet cheese, and a damp room best for a dry cheese; but in no case was a high temperature (exceeding 75°) found necessary.

These and like experiments, too numerous to detail, confirm my conviction that much of the bad flavor complained of in the American cheese may be prevented with proper attention to curing. In addition to the extreme changes of weather in our climate, which are more than sufficient to destroy the constitution of a well manufactured cheese, the practice *too generally prevails*, of placing cheese in some loft or upper room, least needed for other uses, and often next to a roof, where heat concentrates, and cheese *literally baked*, as in Nos. 1 and 3. I deem such rooms best, as are calculated to preserve an *equilibrium of low temperature*. A tight spacious, studded and plastered lower room, well ventilated with northern exposure, where heat may be increased, and air dried by fire and ventilation, or cooled and dampened if required, by air from an underground or adjoining room, where ice may be kept, *is best adapted to this climate*.

Having previously written at considerable length upon *general treatment, adaptation of food* I shall not here go into a lengthy detail, but a few hints may not be inappropriate. The success of dairy men (like grain growers) depends much upon adapting their practice to the provisions of nature. Cows should be in a condition to yield the greatest flow of milk, upon the cheapest and most spontaneous productions from the earth, maize, mangle wurtzel, cabbage, carrots, and ruta bagas (of the cultivated crops) yield the largest product per acre, and from the varied periods at which they arrive at maturity, are well calculated to protract the flowing of milk till late in the season. Those most per-

ishable to be used first. It is proved by experiments, that a cow will give the most milk from the same amount of food, during the first sixty days after gestation begins. My cows yielded 45 lbs. milk per day the first of March on 25 lbs. of good hay and 4 quarts of provender in alops. The first of June diminished in quantity and the first of November on same feed, gave only 20 lbs. per day. Other cows of equal quality coming in from the middle of April to the first of May gave, on the first of June 55 lbs. of milk on grass only, and held a good flow of milk through the season. On the first of December they gave 20 lbs. of milk each, while those in milk the first of March were nearly dry upon the same feed, proving conclusively, that cows in general, will yield more and better milk from first of May to January, than from first of March to January. The months of March and April require much more labor and grain feed, that would otherwise turn to money. Nature provides in *spring time* a principle of *general progressiveness* in the animal and vegetable kingdom. The thriftiest growth of spontaneous product is in May and June, and cows should then be in a condition to receive its aid.

If seed of a spring-crop is sown too early, the crop will be stunted; so with cows that calve in February and March. Nature having made its master effort in the animal economy, it cannot be revived again in spring time of vegetation, and in the fall, when farmers have more or less of coarse perishable food, like pumpkins, apples, etc. they are not in as good condition to yield milk as when they are started late, and their flowing is kept up by sowed corn or other succulent food.

I realized the greatest nett product of cheese in my dairy in 1844 and 1845. Commencing April 20th with half my cows in milk, average yield in 1844, 700 pounds per cow market weight. In 1845, average yield 775 pounds per cow, weighed daily from the press, averaging five pounds per cow, per day during the first five months. Less grain was required to keep their flowing of milk the five months, than in the months of March and April, when commencing on the tenth of March.

No one kind of grass or other food is found to produce as much or as good milk, as good pasturage upon soil yielding a great variety of grasses, each maturing at different periods, and furnishing in their turn the *flower of feed*, from which the finest flavor of butter and cheese is derived. Such soils are prevalent in this county, where the land is elevated and not over worn with tillage. Low, marshy grounds, and those having a northern or north-western descent are exceptions.

A difference of from 5 to 10 per cent is frequently shown by the lactometer in the quality of milk from neighboring dairies, the proof being in favor of those *best fed and husbanded*.

The practice is prevalent among dairymen of pasturing the low, wet and shady portions of their farms, (if they have such,) and using for meadows the more aired portions. In some such locations, it is impossible to make a fine flavored cheese. The curd works *tough* and stubborn, and cheese is invariably of a harsh rank flavor. If this practice should be reversed and the low lands used for meadows, and the elevated, warmer portions grazed, I have no doubt a great improvement would be made in our dairy products.

More care is required in working curd where whey and grain is fed than when cows are grazed, as the milk is richer, and cheese more apt to be harsh flavored; when cows are *in heat* their milk should not be put with the rest, till thoroughly cooled. It is often *rank and bitter*, and will sour in a few hours. If cows eat salt largely, beware of soft leaky cheese; it retards the effect of rennet to decompose. Salt should lay by the cows that they may take a little daily. Corn sowed in *drills* will produce more milk, arising from the cultivation and effect of sun and air. If fed when too old, it is not succulent and will dry up the milk.

Litchfield, Herkimer co., 1847.

Improvement of Soils.—I do not mean to say that the small quantity of inorganic materials found in all plants is not absolutely necessary for their perfect developement; on the contrary I believe they are. But what I would suggest is this, that our cultivable soils contain an exhaustless store of these materials, and that all they want is disintegration and decomposition to make them available to our crops. We need not then wander over the globe in search of lime, gypsum, potash, &c., when they are already in chemical combination in our soils. (In our granitic region, far from the seaboard, these foreign helps are out of the question, they may be said to be beyond our reach.) What we have to do is to effect their decomposition, so that they may be taken up by plants, and enter their organization. How is this to be done? Nature shows us in her great laboratory how she effects it. It is by a play of affinities, not yet, perhaps perfectly understood, the vegetable constituents decomposing the mineral compounds of the soil and the mineral, in their turn, decomposing the vegetables, (I say nothing here of the atmosphere, light and electricity.) Earths, therefore, that originally have in abundance all the minerals necessary to vegetation; by this action and reaction would soon be covered by a rich vegetable mould. This would improve the condition favorable to vegetation, and increased vegetation in its decay would hasten mineral disintegration and decomposition. In this way, no doubt, we have the rich moulds which make the choice lands of our country. As I said, then, what we have to do is to imitate nature as far as practicable. What means do we possess for doing this? Evidently to turn in vegetable matter.

Facts about Digestion.—Wheat is most nutritious of all substances, except oil; containing ninety-five parts of nutriment to five of waste matter. Dry peas, nuts and barley are nearly as nutritious as wheat. Garden vegetables stand lowest on the list, inasmuch as they contain when fresh, a large portion of water. The quantity of waste matter is more than eight tenths of the whole. Veal is the most nutritious, then fowls, then beef, last pork. The most nutritious fruits are plums, grapes, apricots, peaches, goosberries, and melons. Of all the articles of food, boiled rice is digested in the shortest time—an hour. As it also contains eight tenths of nutritious matter, it is a valuable substance of diet. Tripe and pigs feet are digested almost as rapidly. Apples, if sweet and ripe, are next in order. Vension is digested almost as soon as apples. Roasted potatoes are digested in half the time required by the same vegetable boiled, which occupy three hours and a half—more than beef or mutton. Bread occupies three hours and a half—an hour more than is required by the same article raw. Turkey and goose are converted in two hours and a half—an hour and a half sooner than chicken. Roasted veal and pork, and salted beef, occupy five hours and a half—the longest articles of food.—*American Journal of Agriculture and Science.*

Corn Culture.

MR. J. A. BARNES, of this city, informs us that he has often had occasion to remove broken rails in old fences, and has burned them in small heaps on tilled land. In planting this land in corn, he has found the hills which grew on the places where the rails were consumed, were twice as large and productive as elsewhere in the field. He attributes the improvement not to the burning of the vegetable matter in the soil, but to the ashes left from the combustion of the wood. This, we suppose, to be the true reason for the signal gain in the crop at the places named. Will it pay to give each hill of corn in a whole field, an equal chance to yield a double harvest? Should any pains be taken, not merely to save all ashes on the plantation, whether made in the house or out of it, but to burn them in hard wood forests expressly to supply a field of corn with its indispensable mineral elements? Of this, each farmer will very properly judge for himself.

It is well to learn something of the kinds of minerals found in the ash of kernels of corn, as well as those in cobs, stalks and blades. The results of our researches correspond nearer to those obtained by M. THEODORE DE SAUSSURE, than any other, and we follow him as our authority. He gives 51 per cent of phosphates of lime, magnesia, potash and soda, and 48 per cent of sulphates and chlorides of the above named basis, and 1 per cent of silica and iron. In the ash of maize straw, SAUSSURE found 14-

70 per cent, phosphates; 4 per cent sulphates and chlorides; 18 per cent silica; 1 per cent carbonate of potash, (pearl-ash,) beside traces of iron and alumina.

Some of our readers will now understand why their mothers could use *cob-ash* on a pinch, as a substitute for pearl-ash in making cakes and bread. If every planter knew how indispensable the alkalies found in burnt cobs and stalks are to the organization of corn, and that when he threw away or wasted a bushel of cobs, he in effect loses as much good corn as the cobs, ever produced, he would begin to practice a little more economy. And is there not common sense in the idea, that the same matter in a cob which has brought to perfection 100 seeds on an ear, will be very apt to do the like again and again, if you rot the cob, and place the matter in a position to give all its fertilizing elements to corn plants, year after year? If the manufacturer of cotton and woolen cloths should throw away one-third of his raw materials, he would aptly illustrate the folly of many manufacturers of corn.—*Southern Cultivator.*

Fruit Culture.—But the best evidence I can adduce is the orchard of MR. LAMBERT, near Vicksburg. His fruits are well known in New-Orleans, and his treatment to a great number of people in these parts, as I have referred to it before, in one of our weekly papers. He grows choice fruit when his neighbors fail. His trees though younger than some others, bear bountifully. His trees, though two to four years older than mine, are not half the size. Yet he produces more fruit than any of us. He root prunes, by digging a trench all around his trees at some four to six feet distance, he manures in that trench with decayed vegetable matter, old plaster, and all refuse manures, if not fresh or heating, and he prunes the branches. I have been in his orchard, have conversed with him, on the matter, have bought trees of him, and eaten his fruit. There are many who prune the branches, others do nothing, and yet MR. LAMBERT is adjudged by all as the best fruit culturist among the whole who are devoting time to the matter. It cannot be expected that a countryman, with a small force, can cultivate trees for fruit, as one who has but few trees, makes it his business, and sells fruit to the tune of \$2600 in one season, from less than 15 acres (I think.) I say nothing of the North, but I am satisfied if trees are cultivated sufficiently to keep them healthy and vigorous, they should be root pruned to prevent too great a growth of wood. When trees become old, or are on grass land, they do not make wood, and therefore the juices eliminated go to form fruit. I would not be surprised if our grape vines would do better, if they could be kept under; they are pruned close enough, yet they make too much wood, I think.—*Southern Cultivator.*

REMARK.—It gives us pleasure to have our experience and observation in Western New York in regard to the value of root pruning, sustained by results in the Valley of the Mississippi.—*Ed. of Southern Cultivator.*

Clover Hay.

Though this hay is condemned by some farmers, we consider it among the most valuable varieties, when properly cured. It is excellent for growing stock of every description. It is the very best hay for sheep, and for young lambs and calves before they can get grass.

It is excellent for milch cows, and in fact it is among the most valuable kinds for every description of stock, when not working hard, and even then we would have a small part of their food clover hay, and for this purpose we always mix some clover with herds grass and red top. Clover hay, properly prepared, will form in part, one of the cheapest kinds of food for hogs and poultry.

We have kept sheep in fine condition, when supporting their lambs, in the spring, on nothing but clover hay and water, the lambs eating freely also of the sweet heads of clover. Calves (yearlings) running with sheep would do well on the coarse part left by the sheep; and if any was rejected by the calves, it was readily eaten by horses, for which the orts of sheep are very wholesome.

Time of Cutting.—On this point there are various opinions. Some would cut before it is in full blossom, that is before any heads turn brown. As the stalks of clover are rather coarse with a good growth, we should cut it at an earlier stage than we should herds grass, say when on an average in full bloom; this would be when about one-fourth or one-third of the heads are turning brown, for at that period as many heads remain without the blossom developed as have become brown, so that it will be at the middle of the blossoming season.

Curing.—One great objection to clover hay is the difficulty of curing it, for if allowed to remain long in the sun it not only loses much of its sweetness, but the fine parts break off and are wasted before the stalks are dry. To remedy this evil, in some measure, make it in part, in the heap. After it is partially dry put it into heaps and let it remain over night, or two nights if the prospect for favorable weather be good. In this way the moisture becomes equalized, passing from the stalks to the leaves, and on exposure to the sun and air, it will readily dry, without crumbling and a waste of the best parts.

Sometimes, from unfavorable weather, it is necessary to get in clover hay before completely cured, and much depends on preserving it sweet. In such cases we have found the best mode of saving it in fine condition, to mix with alternate layers of straw, old hay, pea vines, &c., which absorb the moisture, and some of the sweetness of the clover, so that they are eaten

by stock, and are valuable, as they contain nutriment, and only need something to make them palatable. Hay caps are excellent for saving clover hay.—*Boston Cultivator.*

Hay Caps.

As some gentlemen of wealth have introduced the use of hay caps, some farmers may regard them as a fancy article, not as one of real utility to one who farms it for profit; but this is a mistake. Hay caps not only save much labor, in opening and spreading hay to dry it after a storm, but they often save far more property than their cost.

Another consideration, they aid in expediting the business of haying, and completing it at an earlier period, which often makes a great saving, for very few farmers, even if they commence haying in season, get their last hay in due time, for they are often 4 or 5 weeks in haying, when nearly all their grass needs cutting at the same time; and though many say herds grass should be cut when in bloom, and clover before full in blossom, yet they never begin till about these periods, and are four weeks after, generally, before they are done, thus their practice is constantly at variance with their profession.

We published an account of the use of caps last year in which it was shown that their use only once in the season made a saving that exceeded their cost, as a farmer saved his hay while his neighbors lost theirs.—Caps may be made of various materials.—Hon. J. C. Gray, of this city, who has a pleasant country seat at Cambridge, stated at an Agricultural Meeting that he used old canvass, painted with tar for caps, and the expense was light.

We saw at Mr. Cushing's, Watertown, some excellent hay caps of Chinese bambo, a kind of flag, that were admirably fitted for the purpose. They cost 37 1-2 cents each in China. Nothing for importation, as they were used in the cargo for filling or stuffing. Farmers can make excellent caps of flags. Drilling is used for this purpose, and fastened at the four corners by sticks run into the ground. If the hay is well elevated in the centre, most of the water will run off, if the cloth be not painted.—Hay caps are very convenient on the farm for many purposes; such as covering grain, beans, peas, fruit melons, squashes, pumpkins, covering tender plants, recently set, &c. &c. In the spring they may be used to advantage in screening small early fruit trees, when in blossom, from frost. In many cases where one's labor is stationary, they may be used as a protection against rain, hot sun, or cold winds.—*Albany Cultivator.*

Education is a better safeguard for liberty than a standing army. If we retrench the wages of the schoolmaster, we must raise the wages of the recruiting sergeant.—*Edward Everett.*

Influence of Air in Modifying the health of Animals.—Some idea of the immense consumption of oxygen by animals, may be formed by taking the following computation by Boussingault: An adult man consumes 19.9 oz. carbon, daily, in his food, and requires 37 oz oxygen for its conversion into carbonic acid gas. A horse consumes 97 1-3 oz. (more than 8 lbs. Troy) of carbon in 24 hours, and this requires 13 lbs. 3 1-2 oz. oxygen for the same purpose; while a cow consumes 69.8 oz carbon (nearly 6 lbs. Troy,) which calls for 11 lbs. 10 1-2 oz. oxygen.

From this circumstance alone, we see the necessity of ventilation in places where animals are kept; and the danger that results from crowding them together is heightened by the excretions being allowed to accumulate and to throw off their pestilential gasses, which are necessarily evolved by decomposing bodies.—Hence, in ill-ventilated stables we meet with the compounds of hydrogen, sulphuretted and carbonated, ammonia and its carbonate, and the hydro sulphate, besides the carbonic acid and free nitrogen given off by respiration; and, from the inhalation of these compound gasses, heated as such an atmosphere necessarily is by the congregating of animals, we have frequently inflammation and other diseases of those all-important organs, the lungs, set up, which, from the debility induced, is followed by farcy and glanders, and this more especially, should the predisposing causes of hard work and bad food co-exist. Or we have ophthalmia, both local and constitutional, engendered; and often that insidious but too frequently fatal disease, phthisic pulmonatis.

For the Michigan Farmer.

How important indeed, is knowledge to successful farming. Do you tell me that those who tread the halls of science, must have spent years poring over the accumulated volumes of the past? Do you tell me that the astronomer must be acquainted with the great principles of the noble science to which he has elevated his rising energies—the great law of gravitation, for instance! Turn with me and tell me how was formed, upon that bending flower, the pearly dew-drop. Or look at yonder dashing river, and tell me what urges it forward in its course—and by the operation of what great law man is enabled to employ it as a powerful means for supplying the most needful wants of our existence. Do you say that the philosopher of Nature must have a thorough knowledge of all the laws which govern matter? Then I tell you, the farmer should be emphatically a philosopher. For who is dealing with matter continually?

Is it not the Farmer? Is he acquainted with the laws of light, its properties, its effects on vegetation? Does he know what kind of matter supports, or is necessary for the growth and maturity of his different kinds of grains and grasses? Or in other words, why the same piece of land will not year after year without diminution, produce the same kind of crop?

Must the Botanist understand the nature of plants, their local adaptation, and the laws which operate to unfold and develop the different parts of their organized structure; and the farmer who grows them know nothing of it? Is it at all reasonable that he should be ignorant of these things? Would he not be much, much benefited by a knowledge of these subjects? If so, would not a few moments, daily spent in the acquisition of this knowledge, result in a vast amount of profit? Would it not elevate our occupation and dignify labor?

I appeal to the Farmers of Michigan upon this great, and important subject. We must work for the elevation of ourselves. It seems necessary to our progress that a State Agricultural Society should be immediately formed, and we must look to the best cultivated districts, the interior counties for the formation of such a society; it is upon the farmers of these parts that this duty rests! What say you farmers of Wasthenaw of Calhoun and Kalamazoo?

CHAS. BETTS.

Fawn River, July, 1848.

For the Michigan Farmer.

The Wheat Crop—Rural Scenery.

Fawn River, St. Joseph Co.

July 4th. 1848.

MR. ISHAM:—Agreeably to your request I send you some observations which I was enabled to make on a morning tour to the southwest. I left the vicinity of your pleasant city about the middle of June. I think the wheat crop through the region I travelled will afford an average yield. I saw a greater number of pieces of first rate quality than I saw of poor. Fruit will be abundant wherever trees are found large enough to bear.

One thing the traveller will particularly notice as he passes through this part of the country on the Chicago Road; and that is, the taste manifested about every dwelling, from the superb mansion to the humble log house, in planting and arranging trees and shrubbery and flowers, some of the most beautiful kinds. This is good evidence of the character of the inhabitants at least of the fairer portion.

C. BETTS.

MICHIGAN FARMER.

WARREN ISHAM, EDITOR.

PUBLISHED SEMI-MONTHLY—TERMS \$1
IN ADVANCE—FIVE COPIES FOR \$4.

Organic Elements of Nutrition.

We spoke of nitrogen, as the product, in the form of ammonia, of decaying vegetable and animal matter, of its ascent into the atmosphere, and its descent to the earth again, in the rain and snow.

The question has been raised in regard to the value of the ammonia generated in manure, whether it is an object to fix it by chemical agencies, and thus prevent its escape. Some have strongly maintained, that the value of manure, in no manner depends on the ammonia it contains, and various experiments have been instituted with a view to test the matter, the results of which seem to show, that the inorganic or mineral elements it contains, constitute its chief value. With a view to ascertain, whether the expense of carting manures might not be saved, a farmer near St. Albans, (England) reduced it to ashes by burning, and the result showed that the effect from the ashes of the manure, was about equal to that of the application of the unburnt manure, the yield, in both cases, being about five fold over that upon the unmanured ground. But in the process of burning, all the ammonia and other organic elements were driven off, in the form of gas, and only the inorganic elements remained in the ash.

Experiments have also been made with compost heaps, intermixing gypsum with one, to fix the ammonia, and leaving another composed of the same materials, ungypsumed, the result of which seemed to be somewhat in favor of the gypsumed heap for turneps, but not for wheat.

It appears, that Prof. Horsford, upon analyzing the soil of an Illinois prairie, which had never been manured, found at the rate of 8000 lbs of ammonia to an area of an acre, one foot deep, the portion of earth analyzed being taken from a depth below all traces of organic matter. Prof. H. hence concludes that the quantity of ammonia spread upon a field in manure is of no moment, compared with the quantity which is brought down in the rain and snow.

There have been, however, some experiments on the other hand, which want to show, that the organic matter in manure exerted no inconsiderable influence upon vegetation. The beneficial effects resulting from the experiment of Sir Humphrey Davy, in putting the mouth of a glass retort filled with fermenting manure beneath the roots of some growing grass, seemed to be conclusive on this point. The effect, however, he regarded as due, not to the ammonia, but the carbonic acid gas, contained in the manure. The latter he found to constitute far the greater part of the organic matter given off by the manure, the remainder being mostly ammonia, and constituting, if our recollection serves, not more than eight parts in a hundred.

It has been strongly contended by many practical farmers, that manures from which the organic elements had been given off by the most thorough fermentation, were equally, if not more beneficial to vegetation, than manures which had not been subjected to this loss.

From all which, we infer, that the ammonia usually contained in manures, though it may be to some extent, beneficial, is of far less consequence than has generally been supposed.

From the earliest days of agriculture, salt-petre, (nitrate of potash) which is composed of nearly equal parts of nitric acid (aqua fortis) and potash, and the nitric acid of which is composed of nitrogen and oxygen, mostly of the former, has been known to exert a highly beneficial influence upon vegetation, imparting to it a deep green and luxuriant appearance. Virgil in his Georgics, recommends it to the Italian farmers as an excellent addition to the dregs of olive oil to form a steep, to cause the seed-grain to swell and vegetate with vigor. And from the days of Virgil, more than eighteen hundred years ago, to the present time, scarcely has there been an agricultural writer who has not borne testimony to its virtues as a fertilizer.

That the effect of salt-petre upon vegetation, is due to the nitrogen which enters so largely into its composition, there can be little doubt. This would seem to be evident from the fact, that salt-petre, as such, has never been detected, by the subtlest analysis, in the common products of the farm. The only vegetables in which it has been found as a salt, are the nettle, the horse-radish, and the sun flower, vegetables which delight in soils where salt-petre is generated by natural causes. The nitrogen which is set at liberty in the decomposition of vegetable and animal matter, or rather a portion of it,

unites with the oxygen, with which it comes in contact, and forms nitric acid, and then all that is needed to form salt-petre is, that the nitric acid thus formed, should come in contact with potash. But potash also results from the decomposition of such substances, and hence it abounds, to a greater or less degree, in all vegetable manures, and in all soils. The nitric acid and the potash thus resulting from decomposition, under circumstances favorable to their combination must of necessity produce salt-petre. Hence incrustations of crystalized salt-petre, are not unfrequently found upon the walls of stables, and in some peculiar localities, upon the surface of the ground. And hence too, the universal fact that those soils in which there is the least decomposition of vegetable matter, and in which of course, the conditions essential to the formation of salt-petre, do not exist, or but to a very limited extent, are the very soils and the only soils upon which this substance produces its marked effects. Such are all light, sandy soils. Upon heavy soils, and those consisting of deep vegetable mould, salt-petre produces but little effect. But these are precisely the soils, in which the conditions favorable to the natural production of this substance, exist.

Salt-petre is found in a tolerably pure state, in immense beds, in Hindostan, Bengal, and in the south of Africa, the loss in purifying it, not being more than 15 or 20 per cent. It is an important article of commerce, and immense quantities of it are transported for agricultural purposes. It is also manufactured, to a considerable extent, in our own country. The surface of the earth, under buildings, secluded from the counteracting influence of rains, presents circumstances highly favorable to its accumulation, and all the manufacturer has to do, is to collect the earth thus charged with it, and subject it to a process which shall separate and purify it.

Gluten is the portion of wheat, and the only portion, which contains nitrogen, and is identical in chemical composition, with muscular fibre or lean meat. It constitutes about one-fifth part of the substance of the kernel, and from its similarity in composition to muscular fibre, has been called "half animalized." It appears to abound more in spring than in winter wheat. According to an analysis of Sir Humphrey Davy, English winter wheat contained but 19 parts in a

hundred of gluten, while spring wheat was found to contain of this substance, 24 parts in a hundred. The proportion, however, differs somewhat in different climates and soils. Another fact established by chemical analysis, is, that a much larger proportion of gluten resides in the rind or bran, than in the other portions of the kernel. The starch of wheat, which Sir Humphrey found to constitute 77 parts in a hundred, of winter wheat, and 70 parts of spring wheat, contains no nitrogen.

The red winter wheat, he found, contained more nitrogen than the white varieties, and yet the latter commands a higher price in the market.

It is a fact, sustained by repeated experiments strange and unaccountable as it may appear, that a supply of highly nitrogenized manure, does not increase the proportion of nitrogen in the kernel, but rather diminishes it, while, at the same time, the quantity of wheat produced by the application of such manures, is greatly increased.

We took up our pen to speak mainly of that other organic element, hydrogen, but nitrogen seems to have put in a claim to our undivided attention this time.

Education.

The Albany Cultivator, in noticing a new work on education, by a Mr. Hosmer, speaks of its leading position, viz, that education is valuable in proportion to value of the knowledge it imparts, and seems to endorse it.

But this view of education is heaven-wide from all our ideas on the subject. Indeed we have supposed, that education was one thing, and the acquisition of knowledge quite another thing. The acquisition of knowledge, so far as it is secured in the course of education, is rather incidental to it, than the object of it. The object and design of it is, to discipline the faculties, and of course, such studies as are best adapted to this end, should be pursued, rather than those which furnish the greatest amount of knowledge.

Education, (we speak of intellectual education) consists more in the simple matter of training the attention to habits of patient investigation, than in any thing else. This done, and all is done, for in accomplishing this, and in proportion as it is accomplished, every faculty of the mind is developed, while, without it, the

mind remains a chaos, and no effort at improvement will be of any avail, whatever may be the amount of knowledge it may have imbibed. Mere knowledge, without the ability to turn it to profitable account, is of little use. Generally speaking, such minds have little thirst after knowledge, but occasionally we meet with such a spectacle—and what a spectacle it is! Who has not observed the pitiable condition of such a mind, bewildered and lost amid the stores of knowledge it has accumulated, and totally unable to make use of them to any good purpose?

How manifest then is it, that the simple acquisition of knowledge is not education, nor any part of it. So far from this being the case, it may be affirmed, without fear of successful contradiction, that if there were a process by which the mind could be trained to habits of attention and its faculties, thus be fully developed, though it had not drank in a single idea in the process, it would be educated.

This we take to be the technical and strictly appropriate meaning of the term education, intellectual education. To be sure, there is a loose sense in which the term is otherwise employed, in common parlance.

And what is the chief benefit proposed by a collegiate course? Is it the acquisition of knowledge? So far from it, that the young man, when he takes his degree, however diligently he may have improved his time, is only supposed to be but just prepared to enter upon the profitable acquisition of knowledge. To be sure, he has gained more or less useful knowledge in the process, but it was merely incidental.

In a more comprehensive sense, education has reference to the whole man, to the moral and physical, as well as to the intellectual part of his being, and no system of education can be complete, which contemplates the improvement of only one part of that being, to the neglect of the other two. But we have neither time nor space to enlarge.

Depredator upon Fruit Trees.

Several kinds of fruit trees in this vicinity, have recently been visited by a kind of slug, about three-fourths of an inch in length, which devours the leaves at a rapid rate. A remedy suggested by Mr. J. C. Holmes, viz, whale oil soap, has been applied by one or two individuals, with entire success, and may doubtless be

applied with equal success by others. Take half a pound of the soap and dissolve it in two pails of water, and sprinkle it upon the leaves by means of a syringe or water pot. The soap should first be dissolved in a quart or two of warm water, as its solution is not readily effected in cold water. It can be obtained at the drug store of Mr. Knapp, nearly opposite the Methodist church on Woodward Avenue.

It appears that the Massachusetts Horticultural Society some time since, offered a premium for the discovery of a remedy of the evil in question, and that to an individual in Roxbury, as the author of the above prescription, the prize was awarded. It may be applied then with a good degree of confidence in its efficacy.

Heavy Rains.

During the last week and the fore part of the present, this vicinity has been visited with a very unusual amount of rain, unusual not only for this season of the year, but for any season. We were informed by Dr. Duffield, who has measured the depth of water which has fallen in all the rains in this vicinity for the last nine years, that a greater depth of water fell during the continuous rain on Thursday and Friday of last week, than has fallen in any one rain storm during the above mentioned time, its depth being a fraction over 4½ inches. We shall expect to hear of the appearance of the potatoe rot as a consequence, if the crop is forward enough to be affected, and the early planted doubtless are sufficiently advanced.

We learn that the late rains have been equally heavy in the interior, and that as a consequence, the wheat has grown, as it stands. The injury from this source, however, will not be likely to be very extensive, as not many fields will be likely to be just in that particular stage in which germination would take place in so short a time, which is previous to the kernel becoming hard. We learn from a farmer, in Genesee Co. that all the wheat which has sprouted in that neighborhood, has been in this particular stage. We do not hear of any injury from rust as yet.

The Eglantine Rose.—What can be more beautiful than the Eglantine rose, which is found in our native forests, sometimes called the Michigan rose. And what inimitable grace and beauty does it add to a dwelling, as it climbs up its sides, and spreads itself out in branching luxuriance, studded all over with blossoms, and sending out their sweet perfumes,

The Wheat Harvest.—The right time for Cutting.

We learn that the wheat harvest commenced several days ago, in various parts of the interior. This is some two weeks earlier than it has usually commenced in this state. This difference results partly from the crop being earlier this year than usual, and partly from the conviction with many farmers, that is profitable to cut wheat at an earlier stage than was formerly the practice.

It appears from the most careful observation that great loss is the result of letting wheat stand until it is fully ripe, the true time for cutting with the greatest advantage having been fully ascertained to be when the kernel is changing from the milky to the doughy state. The advantages of cutting wheat at this stage, are that "it yields more flour, has less bran, makes better flour, shells less in harvesting, gives better straw, and enables the farmer to do the work more leisurely."

Mr. Hannan, of Scotland, found by careful experiments, that wheat harvested two weeks before fully ripe, yielded eight pounds to the bushel, of flour more than wheat growing by its side yielded when fully ripe. Mr. H. concludes, that there is a gain on the flour, in cutting wheat two weeks before it is fully ripe, of 15 per cent. Add to this the gain in the other particulars enumerated above, and it will amount to a very considerable per centage. And if this be so, (of which there can be little doubt,) then this is a matter of very great importance to every farmer.

Thistles and Sorrel.

It has been very pertinently remarked, that wherever these pests of the farmer prevail, they exhibit evidence of bad husbandry, and there is undoubtedly truth in the remark. If land were properly tilled, they would give but little trouble. And in proof of this, we have only to refer those who are curious for information on the subject, to any well tilled farm, located, though it may be, in a neighborhood of thistles and sorrel. In the order of providence then, these disturbers of the farmer's peace, as well as the wheat insect, seem to be sent in judgment, to scourge him into a better system of husbandry, and happy will it be for him, if he heeds the monition.

And all that is necessary to effect their extermination from the soil, is a little extra tillage. Four times plowing in a season, will exterminate them entirely. Many are in the habit of plowing three times for wheat, and in that case

to effect the object, only one additional crossing is required, and the increased yield will probably pay the expense even of that, so that the work of extermination will actually cost the farmer nothing. The first plowing should be done when these troublesome plants are in blossom, and the other three at appropriate intervals up to the time of seeding.

Deep and Shallow Planting.—The Prairie Farmer gives an account of an experiment made by C. L. Shepherd of Dupage co. Illinois, to test the comparative effect of deep and shallow planting. Mr. S. planted his field shallow, with the exception of eight rows through the middle of it, which he planted deep. The shallow planted corn came up first, and kept the lead through the season, so that the difference was discernible as far as the corn could be seen, notwithstanding it was once cut down to the ground by frost. An inch or less in depth he calls shallow, and two or three inches in depth he calls deep.

Changes.—The Farmers' Library is hereafter to be published at Philadelphia, at three dollars a year to single subscribers, and for ten dollars five copies will be furnished. It still remains under the editorial auspices of Mr. Skinner. It is well known as a standard agricultural work. A new volume commenced with July.

The Farmers Cabinet, a valuable monthly published in Philadelphia, is to be merged in the American Agriculturist published in New York. The latter publication is one of the highest order.

Barney's Hotel.—We are glad to perceive, that Mr. Barney, late of the steamboat hotel, (Barney's Temperance House) who was burnt out of house and home in the late fire, suffering the loss, not only of his house but most of his furniture, has again established himself, and is ready to entertain his old friends and customers with his usual good fare. Having taken the Lake House, (near the Exchange,) he has overhauled and fitted it up in good style. It is delightfully located, and will doubtless become a crowded and pleasant resort.

☞ Ripe pears have made their appearance in our market.

☞ The Canal Bank of Albany has failed. The Albany city Bank, (safety fund) is said to be in bad repute.

For the Michigan Farmer.

Farm Accounts.

Mr. Editor:—I think you will agree with me, when I say that every farmer ought to keep a strict account of his expenses and profits, so that he may be able accurately to ascertain the value of each given field and crop, as well as the cost of his maintenance, and and yet, very few I believe, keep such an account as will give any accurate estimate of their business. If a living is procured, improvements made on the land, and a little money laid by, or invested, few trouble themselves to ascertain the particulars. I do not believe that our farmers are less intelligent than our merchants: they are equally capable of buying a set of books. Yet what would be thought of a merchant without his day book, journal and ledger? Since I have had a farm, I have kept such books—altering their arrangement however, as experience prompted, till I am at least pretty well satisfied with my system; and I give it for the benefit of others, only remarking that it has frequently saved me money, from being able to refer to past expenses and profits, or by inducing me to change my system of cropping, and that five minutes every evening are quite sufficient for all that is required. My first book is a common cash book, into which enters every thing received and paid, merely showing the particulars and grand total of cash transactions. My next is a rough journal, in which I daily enter an account of all the work done on the farm, with the name or number of the fields on which the labor has been expended, with the cost—the work of the cattle, and any thing else of importance: I then have sheets so ruled that at the head of the separate columns is the number of each field, and down the side, in the first column, the day of the month. Into this table, enters daily the cost of all labor, under its respective field number, which is added up at the end of the week, and gives the sum total of all the labor expended during the week, on all the fields, and yet each one in particular. I then have a ledger, in which every field has its debtor and creditor side which is posted once a week from the above mentioned table—Into this likewise, enters the cost of seed, the number of days the horses or oxen are employed harvesting, thrashing &c. and any incidental expenses: and on the other side is credited the produce of the crop at its

market value: so that at a glance, I can tell to a cent, the cost of putting in the crop, harvesting it, marketing it—and whether it has paid a profit or not. To facilitate this, I keep a few pages into which is entered all the work the teams do daily, charging say one dollar per day for a span of horses and fifty cents for oxen, with their plows, wagons &c., and noting in what way they were employed. But more than this is necessary in mixed farming. There must be a general account. Thus on the debtor side, I charge annual interest on the value of my land and stock and on the implements I have—and enter, every six months, from the above account the gross expenses of the farm, including taxes, feed for hogs, sheep and stock, and such purchases as are consumed at once. While on the other side, are credited house rent, fuel, milk, eggs, butter, grain, sale of cattle, and every thing that comes in any shape, or is consumed in the family, (of course I keep an account in the family expenses,) arising from the farm—and thus at the end of the year I ascertain exactly how my property stands, and what I have done to better myself: if I put up buildings, of course it is only increased interest that is charged or else the value should be credited as *Improvements*: and the same may be said of fencing and long lasting investments: only in this case the interest must be such as will repay the work by the time it is worked out. Now sir, I am sure that there are few of our Michigan Farmers who cannot keep such books. Many probably could improve on this plan. I myself have many *appendices*, if I may so say—the above subjects being more accurately divided and analyzed—but the plan here suggested is sufficient; and instead of leaving the farmer to mere haphazard, as he too often is left, it renders the work as rational, and as easily calculated on as any business existing; and I have often wondered how any intelligent man can be content to pass a life time in business, without ever accurately knowing whether he receives merely his wages or his wages, and a low interest on his money—or both and a profit besides. I believe many farmers think they are making money, when after all they only get good wages and their living; and their outlay in land &c is all sunk without returns; or they persevere in a vicious system of cropping, while such accounts would open their eyes and induce them to alter their plans. If you think this will be of any value please print it and believe me, yours truly. * * *

By the way, some of my neighbors and myself have tried the plan of hanging looking-glass-

es in cherry trees to frighten the birds, and found it totally inefficient. The Robin and red headed Woodpecker, flew in & out close by the glasses, and had not even the curiosity to stop and look at their own faces. One indeed had the impudence to eat cherries within half an inch of the glass, twisting round in the wind but did not appear to be either frightened or attracted by it. The account first appeared in the London Gardeners Chronicle about a year ago. It may answer with English birds, but Yankee robins and woodpeckers are a little too knowing to leave so tempting a repast for fear of a shadow. Yours truly, * * *

* * * We never believed much in it, but thought as it was recommended, it might be well enough to try it.—Ed.

For the Michigan Farmer.

Wayne County, its appropriate Tillage—Hay Making &c.

Mr. Editor:—The land in the vicinity of Detroit is particularly adapted to grazing. The top soil is underlaid with clay which prevents its leaching. After being subdued, cultivated, and manured, it will produce from 2½ to 3 tons of hay per acre. Deep plowing, and one good dressing of manure, will supercede the necessity of further expense for five years. It becomes matter of gain to the proprietor of land to attend to this dressing as often as once in six years, for it increases the production three fold. If the amount of vegetables produced on the premises is consumed, and if you put back in the shape of decayed vegetable matter what you take off, any given number of acres will not only be kept good, but continue to improve.

The introduction of the subsoil plow and other modern inventions, have nearly revolutionised the former system of husbandry. Deep plowing is now considered indispensable to successful production. The press too has come in to subserve the interests of agriculture, and add its mighty influence to the spirit of improvement. It is an engine of great power, in the cause. It has done much to elevate the standard of national industry. The conductors of the press have done more within a few years past to promote the cause of agriculture by intellectual efforts, by causing the triumph of mind over matter, animating and encouraging the spirit of invention, and by a general diffusion of knowledge, than two centuries would achieve by physical efforts or manual labor, independently of the aid derived from this source.

Wayne county is emphatically a grass growing county. Surrounding, as it does, the great commercial emporium, and market place of the State, its capacities are admirably adapted to the public wants. It is of the greatest importance to the cultivator to produce the largest possible amount on a given number of acres of land. It is a fatal delusion in agricultural economy to cultivate more than can be cultivated well. Meadows should be well drained into ten acre lots. Water allowed to remain a long time on land, sours and impoverishes it, destroys the tame grass by depriving it of the fertilizing influence of the sun and air, and unfits it for any kind of production. Many meadows that have been over fed, bound out and impoverished, yield less than one ton of hay per acre, whereas those that have been put under a good state of cultivation, yield three tons. In fact some lands comparatively barren wastes, have been reclaimed and renovated, until they produce two crops a year, amounting to 4½ tons on the acre. The best cultivation of every species of the vegetable kingdom is undoubtedly the best economy.

The scarcity of water in some parts of this county is a great impediment to the rearing of stock. This can be remedied in a measure by digging pools or ponds which will hold water during the season, and if saturated occasionally with lime, will be perfectly healthy. Sheep require but little water. The heavy dews nearly suffice for sheep, a kind of stock desirable to raise in this county on account of the little attention they require in this particular.

As the season for harvesting is at hand, a few suggestions relative to the best method of curing hay may not be inappropriate. Hay should be mowed and spread out in the forenoon, raked and put in bunches of about 100 lbs. in the afternoon, before the dew falls. To leave it in the winrow which is practiced to a considerable extent, will not protect it so well from dew or heavy rains. The second day in the afternoon it should be put into the barn, with 2 or 3 quarts of salt sprinkled on every ton.

MICHIGAN.

Ireland.—Ireland is still greatly excited. The repeal associations and the Irish confederations have united in one body; called the 'Irish League.' They will try peaceful efforts for repeal. Mitchell's furniture sold enormously high as relics. No further efforts have been made to indict Meagher or Smith O'Brien. The confederation has issued a manifesto quite as daring as Mitchell's treasonable writings. There is very little prospect of immediate outbreaks against the Government. The chartists are making frequent disturbances in England. Three have been arrested and examined.

NEW INVENTIONS.

Galvanic Spectacles.—Mr. J. S. Paine, optician, of Worcester, Mass., has invented something new in the way of spectacles. He has constructed that part of the bows holding the glasses, and the bridge, of two metals, viz., silver and zinc—and he is confident of having thus achieved an important improvement by an uninterrupted flow of electricity, which he believes invigorates the eyes and actually relieves them from a world of small physical annoyances, independently of waning vision. By touching the tip of the tongue on the nose piece, an unmistakable sensation is produced, and a flash of light is instantly perceptible. Mr. Paine thinks that he feels a cool current constantly passing by the orbits, while the glasses are worn. Like a genuine Yankee, he secures a patent, of course; and if the discovery equals his expectations, the millions of spectacle wearers of all countries will soon begin to pay tribute to New England ingenuity. The subject is one that should command the attention of physicians, since a new province for exploration is exposed to view.—*Medical and Surgical Journal.*

Novel Travelling Machine.—An ingenious mechanic, of Manchester, England, (Mr. Archibald Farrie,) has invented a machine for travelling, which was tried in that town lately. It started from Great Ancoats street, and proceeded through Port street and Stevenson Square into Piccadilly; and from thence down Mosley street, Peter street, Densgate, and back again up Market street to Ancoats. The carriage was stopped every now and then to allow parties to inspect the movement of the machine, the working of which appeared to cause the driver only a slight muscular effort, aided by manual dexterity. The machine weighs 8 cwt., has no cranks, and has been worked by one man up an incline of three inches in the yard, while twelve persons were in it. A skilful driver can make it go at a tolerably rapid rate.—*Farmer and Mechanic.*

New Carding Machine.—We learn from the Newark Herald that Mr John Daggett of that place has invented and put in operation at the establishment of Messrs. J. Daggette & Son, an improved Carding Machine in regard to which the writer remarks:

This machine is intended to perform *four times* the amount of work done by the best double carding machines now in use, within the same length of time; and we can see no impediment to hinder it from so doing, as the machinery is so arranged that it will card the wool and produce *four rolls* as easily and as quickly as a common machine produces *one*. It requires one more power for its motion than that used to impel an ordinary machine—it does not take up as much room upon the floor—and its expense is but a trifle more.

New Invention.—Important to Manufacturers.

—A correspondent informs us that a new machine has been lately invented by Henry Kelly, a machinist, in Manayunk, near Philadelphia, which altogether does away with the use of Treadles in Power Looms. This machine works 20 shafts and 100 changes or equal to 100 treadles. Thus is one of them at work in Philadelphia, working 150 picks paper a minute. It is entirely constructed of iron, without any cords, the headles being attached to it by means of leather straps, and any required pattern can be changed or adapted in a few minutes. It is not at all complicated, but on the contrary, quite simple, and not more liable to get out of order than a plain loom, rising and sinking the shed in the same manner as a common two treadle loom. A number of these machines are now at work in the mills in Manayunk, and it is thought they will in a great measure do away with the use of the Jacquard machine for small patterns. It is said that it will not cost more than one-fourth the price of the Jacquard machine, and can be attached to any power loom in a few hours.—*Farmer and Mechanic.*

The Electric Light.—A writer in the Mechanic, (England) speaking of the recently discovered electric light, says, On Thursday night we had an opportunity of witnessing another exhibition of Mr. Stait's electric light, at the Bazaar, Baker street. Certainly the light produced was most splendid, both as to quantity and quality. Although the light itself was no larger than about the size of a common pea, we could distinctly read small print (similar to the type in which this is printed) at the further end of the coach gallery, a distance of about 130 feet from the light. Colored objects, such as flowers, ribbons, &c., appeared as distinct as they would by light of day; even the yellows were as distinct as if viewed by the light of the sun.—*Farmer and Mechanic.*

New Invention.—We learn from the Springfield Republican, that a machine has been recently invented in that town for folding newspapers and other printed matter. It is to be connected with a cylinder, or improved Adams press, so that the sheets come forth from the press, folded in the required form. The inventors warrant it to fold 3600 papers per hour, of any size, with the greatest accuracy.

Patent Shirt-Collar.—A shirt maker in London has invented a shirt collar which he calls the "New Economic Shirt Collar." It has a recess or a kind of pocket in the band, in which are placed two or three extra collars to be turned up when required.

A method of sinking piles or spiles by screwing instead of driving them down, has been patented.

GENERAL INTELLIGENCE.

Great Slave Case.—A slave case of exciting interest came off on Tuesday last in the United States Court now sitting in this city. The case originated in Marshall, and was instituted to recover the value of certain slaves, fugitives from justice!! The plaintiffs claimed, that an attempt had been made by the defendants, (who are among the most respectable citizens of Marshall) to resist the constituted authorities in the seizure of the slaves, in violation of the provisions of the constitution of the United States, by which means the said slaves had made good their escape. The plaintiffs proved the fact of ownership according to the laws of Kentucky, and also that they were proceeding, in the seizure, in accordance with the constitution and laws of the United States, and that they were frustrated in the act by a collection of people, whose appearance was such as to frighten them out of their purpose.

The defendants relied for their defence upon the fact proved, that they did not say to the plaintiffs, that they should not take the slaves, but simply, that they could not do it.

Judge Mc. Lain, in charging the jury, said that if it appeared from the evidence, that the intention of the defendants was to counteract and defeat the seizure of the slaves, and such was the tendency of what they said and did, then, whatever might have been the form of expression they used, they were to be found guilty. He further charged, that in order to make it out an act of resistance on the part of the defendants, the plaintiffs must have publicly made known their purposes, (which they did) and that though they had made but a single annunciation of it, that was sufficient, though two-thirds, or three-fourths of the crowd, had come together, after the annunciation was made, and were totally ignorant of it.

The jury, after being out sixteen hours, were unable to agree, and were discharged. They stood eleven for the plaintiffs, and one for the defendants. The costs, which must be very large, are thus shouldered upon the plaintiffs. The case will not come up again this term, and probably it may never be revived. The defendants were Dr. Comstock, Messrs. Gorham, Hurd and Easterly, and two colored men.

It is said that the suit was instituted and carried on at the expense of the State of Kentucky, the commonwealth having furnished two thousand dollars for the purpose.

Arrival of The Caledonia.—Paris is still agitated. The resignation of Louis Napoleon postpones trouble for the present. Six candidates in the field for President—M. De Lamartine, M. Thiers, Prince Louis Napoleon Bonaparte, M. Murat, Gen. Cavaignac and M. Causidier, ex-Prefect of Police. The Orleans party will support M. Thiers, and Berrier has de-

clared in his favor. The legitimatists are divided by Thiers and Lamartine, if the elections were soon to take place. Little doubt exists that Louis Napoleon Bonaparte would be the successful candidate. The feeling exhibited by the French people in his favor, leave no doubt of that in the event of a presidential election in almost every electoral college in France. Accordingly the constitution has already been altered to meet the first difficulty in the making, and the President instead of being elected director by the people, unless he has an absolute majority of votes given, is to be selected by the National Assembly from five persons returned by the people: the election of Prince Louis Napoleon, as Col. of the 4th Legion of the National Guards.

DENMARK.—The war in Denmark continues unabated, and a conference of the Kings of Sweden and Denmark, and the Grand Duke Constantine of Copenhagen and was attended by the British Minister. The Russians, in behalf of Denmark, demand that the Germans shall evacuate the Duchies before negotiations are entered into, and that if Schlesing was given up, Russia would sustain Holsen according to the treaty with the Danes and Paul. **BERLIN.**—On the 13th inst, a collision with the Burger guards, arising out of an attempt to disperse some workmen who had gone to the Minister to demand work or money, and being refused, the guard attempted to disperse them, and five men were murdered. The news spread like lightning, barricades were formed, and the people having discovered that the Assembly left unprotected at 11 o'clock at night, made an attack upon this building, and plundered it of about 2000 stand of arms and also the trophies of war it contained. The crowd took possession of the building, and then retired. The next day was quiet, but one of the deputies moved that the assembly should send away all the troops, and put themselves under protection of the people, this was carried and the government resigned. **PRAGUE.**—At Prague the King having refused to confirm the provisional government and Prince Werdisgratz, have erected batteries around the town. The mob and the students arose en masse and demanded arms.

Presidential Candidates.—Martin Van Buren of N. York, has accepted the nomination at the hands of the Barnburner Convention. John P. Hale, of N. Hampshire is the Anti-Slavery candidate—four in all.

Postscript.

By the arrival of the Niagara we have news of awful scenes in Paris. An insurrection broke out on the 22d of June, and a most sanguinary conflict followed which continued four days and nights, without intermission, during which the streets of Paris were rivers of blood. At last, however, the government forces under Calignac stormed the entrenchments of the insurrectionists, when the greater part of them were taken and the rest fled. Thus the Republican arms were triumphant. Ten thousand men were killed and seventy-five thousand wounded. Among the killed are 14 generals, fifty members of the Assembly, and the Archbishop of Paris.

☞ We occupy a considerable portion of our first page with an advertisement of the treatise on domestic animals. If by this means we can get this book into the hands of our farmers generally we shall entitle ourselves to their gratitude, rather than to their maledictions, for devoting so much space, for a number or two, to its interests. Indeed so desirous are we to get it into general use among our farmers, that we have consented to have it deposited in our office for sale, and we shall soon expect a supply. It is the treatise we noticed in our last.

Good Example.

BROOKLYN, June, 28, 1848.

MR. ISHAM:—Enclosed I send you two dollars,—One dollar for the current volume,—one dollar in advance for the next volume of the Michigan Farmer.

I am much pleased with the management of our paper, and will try to write something for its columns (though the communication be a humble one) as soon as time permits.

Yours with respect,

J. C. WATKINS.

TERMS.—The MICHIGAN FARMER is published at Detroit, twice a month, by WARREN ISHAM, at one dollar a year in advance—after three months \$1 25—after six months \$1 50—after nine months \$1 75. No subscription taken for less than one year, nor discontinued till all arrearages are paid. To clubs, five copies for four dollars. Office, on King's corner, third story.

Market Intelligence. DETROIT PRICE CURRENT.

Flour, bbl.	\$4 50	Salt,	\$1 25 a \$1 50
Corn, bus.	a 40	Butter,	9 a 12 1/2
Oats,	a 35	Eggs, doz.	11
Rye,	a 42	Hides, lb.	3 a 6 1/2
Barley,	56 a	Wood, cord,	2 25 a 2 50
Hogs, 100 lbs.	3 00 a 3 50	Wheat, bus.	90
Apples, bush	a 1 00	Hams, lb.	6 a 6 1/2
Potatoes,	62 a	Onions, bu.	41 a 50
Hay, ton,	8 00 a 10 00	Cranberries,	a 1 25
Wool, lb.	14 a 28	Wheat, 100 lbs.	1 50
Pig iron, ton,	35 00 a 40 00	Indian meal,	" 1 00
Cool, Leb.	11 00 a 13 00	Beef, do	3 50 a 4 50
do Ohio,	4 00 a 5 00	Lard, lb. retail,	7
Peas, bu.	a 75	Honey,	10
Beans,	75 a 80	Apples, dried,	1 00
Beef, bbl.	5 00 a 6 00	Peaches, do	a 2 00
Pork,	8 00 a 10 00	Clover seed, bu.	4 50
White fish,	6 00 a 7 00	Herd's grass do do	1 00
Trout,	5 50 a 6 50	Flax, do	75
Cod fish, lb.	5 a 5 1/2	Lime, " bbl	75
Cheese,	6 a 8		

Improved Railroad Portable Horse Powers, and Over-shot Threshing Machines and Separators.—Having sold upwards of seventy sets of the above celebrated machines the past season, and to many large farmers in this state, Vermont, Massachusetts, Michigan, Ohio, Illinois, Wisconsin, Canada, and with entire satisfaction in every case, the subscriber would call the particular attention of farmers and mechanics desiring such machines, before purchasing—as he is prepared to offer a better finished article, with some slight improvements, at a less price, than before—for full particulars, description, &c., see catalogue, furnished gratis at the warehouse, Number 10 and 12, Green street, Albany, or by mail to those desiring them.

Albany March 10th, 1848.

HORACE L. EMERY.

Detroit Wool Depot.

In Atwater Street, back of the Michigan Exchange, formerly the storehouse of Gillet and Desnoyers.

THE undersigned will open a depot at the above mentioned place, and be prepared to receive from farmers their wool immediately after shearing. His plan will be similar to that of the Eastern depots, which have proved so satisfactory to both wool-growers and manufacturers; that is, if lots of wool are of an even quality, and if the owner wishes, each man's clip will be kept and sold separately. If not even in quality, they will be thrown into sorts according to quality and condition. As soon as a sufficient quantity is collected, Eastern manufacturers will be invited to examine and purchase. No difficulty is anticipated in effecting prompt cash sales, at good rates, as the orders on wool depots from manufacturers, have hitherto generally outrun the supply. Wool may be delivered at the depot from wagon, or if sent by Railroad, will be taken by me from the carhouse, without expense or care to the owner. It will be sufficient for him to put his wool aboard the cars, taking a receipt for the same, mark the bales with his name, and consign them to the "Detroit Wool Depot," and all will be safe. Insurance will be effected on all lots as soon as arrived. All charges, including insurance, cartage, sorting, storage, shipping and for effecting sale, will be included in a commission of one and a half cents on the pound.

EARDLEY IVEY.

Detroit March 27th, 1848.

REFERENCES.—E. P. Hastings, C. C. Trowbridge, B. F. H. Witherell, Z. Pitcher, M. D. M. Palmer, Shubael Conant.

PETERS' BUFFALO WOOL DEPOT,

SECOND YEAR.

I have established a Wool Depot upon the following plan: First, The Wool is thrown into 10 sorts; Merino wool being No. 1, the grades numbering down from 1 to 5; the coarsest common wool being No. 5. Saxony wool is thrown into extra, and prime 1 and prime 2.—Combing and De Laines make 2 sorts more. Second, I charge for receiving, sorting, storing, and selling, ONE CENT PER POUND; this includes all charges at Depot, except insurance. Third, Sales are made for cash, except when otherwise directed by owner.

☞ All wool consigned to me should be marked with the owner's name.

Warehouse corner Washington and Exchange streets.
Buffalo, Jan. 1, 1848.

T. C. PETERS.

DETROIT SEED STORE AND AGRICULTURAL WAREHOUSE.—In compliance with the expressed wish of a great number of the intelligent and enterprising farmers of Michigan, the subscribers have established a seed store and agricultural warehouse at Detroit, at which will be kept constantly on hand, the choicest varieties of garden, field and flower seeds, obtained from such sources, that they feel no hesitation in recommending them to be of the very best quality. Also, Agricultural and Horticultural implements and labor-saving machines, such as are usually kept at the agricultural warehouses at the East, among which are Pratt's Patent corn-planter and seed drill, Pennock's patent drill (for drilling in wheat and other small grain,) Pitt's thrashing machine, improved harrow, improved cultivator, a great variety of plows, corn shellers, straw cutters and washing machines of the most approved kinds, together with Rich's Beehive, Montgolfier's Hydraulic Ram, Grant's Fanning Mill, Camwheel Churn, &c.

At Nos. 93 and 95 Woodward Avenue, nearly opposite the National Hotel.

Detroit, June 1st, 1848.

F. F. PARKER & BROTHER.